

Remarks

Claims 1-24 are currently pending in this application. By this Amendment, claims 1, 7, 12 and 13 have been amended and claims 10, 11, 22 and 23 have been canceled. Therefore, claims 1-9, 12-21 and 24 are before the Examiner for consideration.

The Office Action notes that various pages were missing from two references submitted with the Information Disclosure Statement. Applicant provides complete copies of these two references including the missing pages. The Examiner further notes that only the cover sheets were provided for two of the submitted book references. Applicant submits herewith the pertinent pages from each of those books.

The invention is a method of taking absorbance-based chemical measurements that requires no calibration of the sensors/analyzers, that is consistent between sensors/analyzers and that shows no drift over time. The method uses a modified reagent-based optical chemical sensor (ROCS) which has been modified so that the analyte selective reagent can be renewed. A means for renewing the analyte selective reagent, such as a pump and valve, allows the reagent to reach equilibrium with the analyte. Sensor response is calculated from a ratio of the absorbance of the reagent relative to a blank solution.

The drawings have been objected to for failing to show a means for renewing the analyte-selective reagent and a means for calculating the sensor response. A preferred embodiment of the means for renewing the analyte-selective reagent is a pump and valve as described in the specification at pages 5 and 6. Applicant submits a proposed drawing correction showing a pump **29** and valve **31**. No new matter has been added by this correction. The claims have been amended to reflect that the means for calculating the sensor response is not an element but a function of the unit. The spectrographic filter and GaP photodiode described in claims 10 and 11, respectively, merely enhance photometric accuracy of the sensor. Claims 10, 11, 22 and 23 reciting these features have been canceled. It is further stated that it is unclear whether Figure 1 shows a prior art sensor. The sensor in Figure 1 allows renewal of the analyte selective reagent, therefore, Figure 1 shows an embodiment of ROCS that can be used in the method of the subject invention. Likewise, Figure 2 shows another embodiment of an ROCS that can be used in the subject method.

Claims 1-24 have been rejected under 35 U.S.C. § 102(a) over DeGrandpre *et al.* The reference lists inventor DeGrandpre, Matthew M. Baehr and Terence R. Hammar as authors. Submitted herewith is a declaration from Dr. DeGrandpre in which he explains that Mr. Baehr was a graduate student working under Dr. DeGrandpre's direction and that Mr. Hammar was instrumental in developing the Submersible Autonomous Moored Instrument for CO₂ (SAMI-CO₂) used in the method of the subject invention but was not however involved in using this instrument for calibration-free measurements. Dr. DeGrandpre is the sole inventor of the subject method. Reconsideration and withdrawal of the rejection is therefore respectfully requested.

In view of the foregoing remarks and the amendments to the claims, applicant believes that the claims are now in condition for allowance and such action is respectfully requested.

Applicant invites the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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Attachments: Declaration under 37 CFR 1.132
Proposed drawing correction for FIG. 2
copies of references cited